

SECTION B.
TECHNICAL NOTES

INTRODUCTION

This report is based on final data from several Federal surveys. Two of them are the U.S. Department of Education's Survey of Degrees and Other Formal Awards Conferred, and the Completions Survey conducted annually by the National Center for Education Statistics (NCES) as part of the Higher Education General Information Survey (HEGIS), later renamed the Integrated Postsecondary Education Data System (IPEDS). The third is the Survey of Earned Doctorates, conducted annually for the National Science Foundation (NSF) and four other Federal agencies. Each source is described in more detail in the following sections.

Data from the Survey of Degrees and Other Formal Awards Conferred and from the Completions Survey were used to report the number of bachelor's and master's degrees. The data on doctoral degrees in this report were derived from the Survey of Earned Doctorates, which surveyed all individuals earning research doctorates, rather than from the Completions Survey, which surveyed the institutions awarding the doctorates. The Survey of Earned Doctorate data were preferred because the data provided by individuals are more specific with respect to the field of specialization and are less likely to contain errors in data reporting and data entry than are the aggregate data provided by institutions. Furthermore, doctorate data provide 100 percent coverage for data by field and sex of individual recipients, whereas institutional data are subject to imputation for nonresponse. For a comparison of reporting on doctoral degrees in the Completions Survey and the Survey of Earned Doctorates, see National Science Foundation, *Science and Engineering Doctorates: 1960–91*, NSF 93-301, Detailed Statistical Tables (Washington, DC, 1993).

In this report the racial and ethnic categories among U.S. citizens (and permanent resident aliens) who were degree recipients during the 1989–95 period are charted and tabulated. It is recognized that the concept of race/ethnicity is as much a socially constructed characteristic as a biological one. Scholars such as Farley and Allen have noted that “the sociological reality of race is more important than its biological reality. Race exerts a profound influence over the lives of people in this society.”²

² Richard Farley and Walter R. Allen, *The Color Line and the Quality of Life in America* (New York: Russell Sage Foundation, 1987), p. 6.

The following five racial/ethnic categories currently are standard in Federal Government surveys of institutions:

- Black, non-Hispanic
- American Indian or Alaskan Native
- Asian or Pacific Islander
- Hispanic
- White, non-Hispanic

Persons who are U.S. citizens or foreign citizens admitted for permanent residence are classified into the above categories. The ethnic category of Hispanic took precedence over the racial categories in the data collection. In addition, nonresident aliens, i.e., those admitted to the United States for temporary residence, are separately identified as a sixth category in the survey. The nonresident aliens are not to be reported in the aforementioned racial/ethnic groups. In 1990, the category “Race/ethnicity unknown” was added.

The definitions for the racial/ethnic categories used in the survey are as follows:

Nonresident alien—A person who is not a citizen or national of the United States and who is in this country on a temporary basis and does not have the right to remain indefinitely. Resident aliens who are not citizens of the United States and who have been lawfully admitted for permanent residence (and who hold alien registration receipt cards—Form I-551/155) are to be reported in the appropriate racial/ethnic categories along with U.S. citizens.

Black, non-Hispanic—A person having origins in any of the black racial groups of Africa (except those of Hispanic origin).

American Indian or Alaskan Native—A person having origins in any of the original peoples of North America and who maintains cultural identification through tribal affiliation or community recognition.

Asian or Pacific Islander—A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands. These areas include, for example, China, Japan, Korea, the Philippine Islands, and Samoa.

Hispanic—A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

White, non-Hispanic—A person having origins in any of the original peoples of Europe, North Africa, or the Middle East (except those of Hispanic origin).

BACHELOR'S AND MASTER'S DEGREE DATA

Bachelor's and master's degree data presented in this report were derived from a survey conducted by NCES—the Completions Survey.

This survey requested data on the number of associate's, bachelor's, master's, doctoral, and first-professional degrees conferred by institutions of higher education. The data were requested according to sex of recipient and field of study for each degree level. Data on the race/ethnicity of degree recipients were collected biennially by NCES for the Office of Civil Rights from 1987 through 1989 and annually since then. A major limitation has been that data are collected only at the broad field level³ (until 1995) and according to the Federal racial/ethnic designations of degree recipients.

The surveys were mailed to all accredited universities and colleges in the United States, including the U.S. territories, for completion by the institution. Followup for nonresponse and editing was conducted by letter and telephone. The overall response rate for institutions of higher education ranged between 94 and 97 percent between 1989 and 1995.

For the bachelor's and master's degree data, the manner of collecting racial and ethnic data is left to the discretion of the institution, provided that the system established results in reasonably accurate data. The information is gathered by NCES for the Office of Civil Rights, U.S. Department of Education, in compliance with title I of the Civil Rights Act of 1964 and title IX of the Education Amendments of 1972.

For institutions that did not report any racial/ethnic data by field, NCES imputed data on the basis of an earlier response for each institution, if available.

Table B-1 indicates the percentage of imputed data in 1995, by award level and racial/ethnic category.

³ Broad field level refers to the 2-digit program levels in U.S. Department of Education, National Center for Education Statistics, *Classification of Instructional Programs* (Washington, DC: GPO, 1991).

In examining data on degrees awarded to minorities, it must be noted that 1 to 5 percent of all S&E degrees awarded in 1989–95 were reported as awarded to individuals whose race/ethnicity was unknown. This unknown category could affect trends and observable changes in the number and share of awards received by minority students, particularly if there are shifts from year to year in the number of degree recipients with unknown race/ethnicity. As tables 1-3 in Section D indicate, the share of degrees awarded to individuals whose race/ethnicity was unknown varied somewhat by degree level.

This NSF report differs from those published by NCES in that data for the U.S. Territories are included, whereas NCES excludes them from most of its published reports.

DOCTORAL DEGREE DATA

In the Survey of Earned Doctorates, information is collected during the period of July 1 of one year to June 30 of the next from all persons who have fulfilled the requirements for a research doctorate. The survey is funded jointly by NSF and four other agencies: the U.S. Department of Education, the National Institutes of Health, the National Endowment for the Humanities, and the U.S. Department of Agriculture. The National Research Council sent the survey forms to all accredited doctorate-granting institutions for distribution by the graduate deans to all research doctorate recipients as they complete degree requirements. Information collected in the survey comprises demographic data, such as the student's sex, citizenship, ethnicity, and racial group; education history, including field of degrees; sources of graduate student support; employment status during the year preceding receipt of the doctorate; postgraduation plans; and background on parents'

Table B-1. Percent of bachelor's and master's degree data that were imputed, by race/ethnicity of recipient: 1995

Race/ethnicity	Bachelor's	Master's
White.....	0.9%	0.7%
Black.....	2.2	1.7
Hispanic.....	0.7	0.6
Asian.....	0.7	1.5
American Indian.....	0.8	0.5
Nonresident alien.....	1.4	0.7
Unknown.....	2.6	2.5

SOURCE: NCES, IPEDS Completions file, 1995.

education. Approximately 92–95 percent of the doctorate recipients complete and return the survey forms. For nonrespondents, commencement programs constituted a source of skeletal information that was added to the file. These variables were sex, field of study, institution, year of doctorate, and educational background. Non-response for race/ethnicity is not imputed for

individuals, but the percent unknown has been low. Since changes in non-response do exist, small changes in numbers should be interpreted with caution. Data are updated annually from completed survey forms submitted belatedly by previous nonrespondents, so numbers may change slightly in the future updates.